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Oct. 1888

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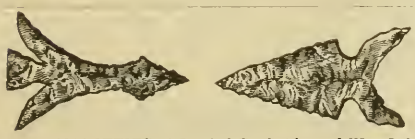

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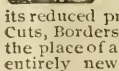

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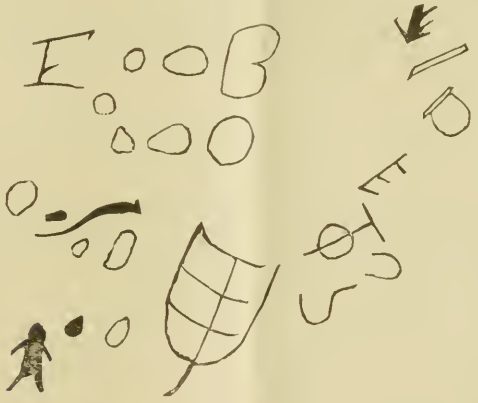
THE WEST AMERICAN SCIENTIST.

VOL. V. OCTOBER, 1888. No. 40

INDIAN CARVINGS.

The Chuckawalla mountains form a part of the vast region called the Colorado desert, and are located in the north-eastern part of San Diego county, California.

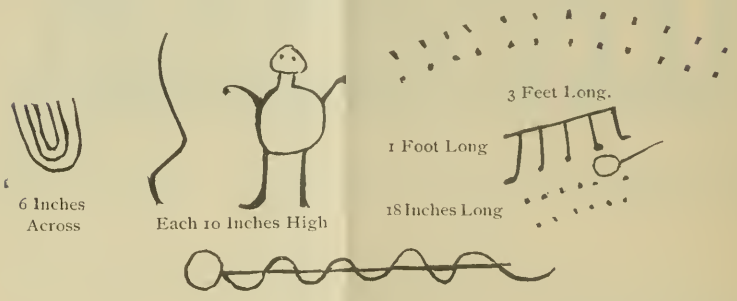
About thirty miles from Salton, a station on the Central Pacific R. R., and near the centre of the Pacific Mining District, there is a smoothly worn rock bearing on its nearly perpendicular face various Indian signs. I give below a rough sketch of the figures engraved upon this rock, as I found them June 7th. It is beside an old Indian trail at several natural water reservoirs locally known as the Black Tanks:



These signs were cut into the rock about half an inch, and were two to six or eight inches in height, and all very distinctly cut. Those near the character resembling a large capital E were nearly effaced by the weather and could not be accurately outlined.

Ten miles from this rock, at Cohn springs, I was informed that a number of rocks were similarly inscribed, with a much greater variety of designs, but I was unable at the time to visit the local-

ity. My companion, Mr. W. F. Hendsch, kindly outlined a few of the characters for me, which I give below:



The above are signs selected at random from the great variety that he had observed on the rocks. The size is approximately indicated. He had been informed that they were intended to indicate the different localities where water might be obtained in that region, a straight line attached to a circle representing the trail leading to a tank or pool of water, the circle alone standing for a natural water tank or reservoir or for a spring. The figure above given where the straight line is crossed by a winding one was intended to describe a short cut to the water; the trail (straight line), leaving the wash or ravine and going across a divide a number of times, thus lessoning the distance to the water, instead of following the natural course of the wash.

C. R. Orcutt.

NOTES ON THE FLORA OF CUSTER COUNTY COLORADO—II.

Sidalcea maluceflora, Gray. Grows in open ground in the valley, always in damp places, where it is of sufficient abundance for its pink flowers to give a color to the landscape. Also found in Fremont county.

Sidalcea candida, Gray. In shady spots by creeks, in the mountains. Also in Summit and Mesa counties.

Linum perenne, L. Abundant of the typical form up to the lower limit of pines, in open ground.

Acer glabrum, Tow. Very frequent by creeks as high as 10,000 feet. Fungus-like growths on the leaves are produced by an insect of the genus *Phytoptus*.

Thermopsis rhombifolia, Rich. A Thermopsis, sometimes presenting all the characters of rhombifolia, sometimes tending to montana, makes the valley bright with its yellow blossoms in May.

Lupinus argenteus, Pursh. Occurs at about 8,400 feet of the var. decumbens, Wats. In the collection of Mrs. M. E. Cusack, an enthusiastic field-botanist resident here, is a specimen from

near Short Creek (about 8,400 feet altitude) representing a new variety, Sericea—rather smaller, more silky throughout, stem densely white-silky.

Astragalus caryocarpus, Ker. One of the earliest flowers of the year, in sandy places in the open, at about 8,000 feet. This species was kindly identified for me by Dr. Geo. Vasey.

Oxytropis lamberti, Pursh. The notorious loco-weed, on which much has already been written. The typical form has white flowers, while in an otherwise similar variety, lilacina, the flowers are pale lilac. The variety sericea also occurs. I have been making a list of the insects frequenting this plant in Custer county—Cantharis nuttalli, say, feeds extensively upon it; a gall was found on a flower-stalk, apparently belonging to a Trypetid fly; small pinkish Lepidopterous larvæ, perhaps those of *Walshia amorphella*, Clem., burrow in the root and crown, and are erroneously supposed by some ranchmen to be the cause of the evil effects of the plant; the butterflies Danais plexippus and Papilio asterias were observed visiting the white flowers of the typical form; while the beetles *Hippodamia convergens* and *Coscinoptera Vittiaga*, and the Homopteron *Proconia costalis* are occasionally found upon it.

Fragaria vesca, L. Exceedingly plentiful above 8,200 feet, but does not fruit nearly so freely as I have seen it doing in Kent and Sussex, England. Also found in Mesa, Delta, and Pueblo counties.

Potentilla arguta, Pursh. 'Black brush,' abundant and troublesome to ranchmen. I found one plant of the var. glandulosa (P. glandulosa, Lindl.) near Querida. I also found arguta in Summit county, and glandulosa in Lake county.

Potentilla anserina, L. Abundant in the valley, differing slightly in general facies from the English form of the species.

Rosa blanda, Ait., and var. arkansana (R. arkansana, Porter.) These and other roses of the Sayi group are plentiful at about 8,400 feet, and so variable as to defy separation into species. Typical forms, agreeing precisely with the descriptions given in the books, are quite the exception. A fungus, Phragmidium subcorticium, Schrank, occurs upon the leaves.

Saxifraga punctata, L. In shady places by creeks at about 8,500 feet altitude.

Sedun stenopetalum, Pursh. Very abundant in rocky ground at about 8,400 feet. It is probably the food-plant of the Parnassius sminthens, which flies there.

Epilobium angustifolium, L. Abundant at about 8,400 feet, presenting two well-marked forms. Found also in Summit, Delta and Lake counties.

Œnothera biennis, L. Abundant and variable.

Œnothera coronopifolia, Torr. and Gray. Abundant at about 8,300 feet.

Echinocereus viridiflorus, Eng. The only abundant cactus from 8,000 to 8,400 feet. Flowers early in June.

Cymopterus montanus, Torr. and Gray. Common on the prairie, eaten by cattle. Flowers early in April, being one of the first flowers of the year. *T. D. A. Cockerell.*

West Cliff, Custer County, Colo., October 14, 1888.

STRAWBERRY PEAR.

This is the fruit of Cereus triangularis, a tall, climbing cactus of tropical America, with large, triangular stem, and one of the largest, handsomest flowers of all the night-blooming species of Cereus. The scaly buds of this cactus are known among the Jamaican peasantry as *Godochio* and are used by them as a culinary vegetable—particularly as an ingredient in soups. They were formerly used in the preparation of the celebrated West Indian 'pepper-pot.' The fruit of the strawberry pear contains a pleasant, sweet pulp, inclosing numerous black seeds. The Cereus triangularis is often seen in South Florida, but, although flowering freely, it rarely produces fruit. Mrs Theo. B. Shepherd, of San Buenaventura, California, possessess perhaps the finest plant of this species in the United States, now about thirty feet high, and bidding fair to occupy the whole front of her house. She writes that 'the flowers are grand.'

ON THE RIVER BANK.

To-day I wandered on the river bank near the old mission of San Diego. Idly I plucked a flower—a belated Erythraea venusta, as fresh and beautiful as in early spring. The bright cardinal Mimulus caught my eye; close beside it grew the oleander Erigeron canaelensis, whose acquaintance I had first made far away. The white flowers of a mock willow (Bacharis) showed among the willows,while beside it, the tall O. Enothera displayed its golden flowers. Menzie's golden rod was growing not far away and with it Stephanomeria virgata.

The "official" varvain spread itself regardless of the fact that the land was of immense value, and near by the large white or purplish-tinged blossoms of the Datura were visible. The old familiar plantain, the Cotula. and wild Heliotiopicum, and the yellow clover were also noted. My hands were getting full of the many colored beauties—so natural and unassuming in their simplicity.

Among less conspicuous of the flowers I gathered were two kinds of Erioganum, the Eremoceupus setigera, a Polygonum, Ambrosia, Cucurbita palmata, a few grasses and possibly other plants. The sycamore, cotton wood and willow led in the bulk of wild vegetation, and the hedges of pomegranates and tuna cactus, and the olive, fig and palm trees of the mission formed a pleasing back ground. Here we have mention of the twenty commoner wild plants in bloom to-day at Grantville.

September 23d, 1888. *C. R. Orcutt.*

THE CHINAMPAS.

THE WEST AMERICAN SCIENTIST for the month of June, 1888, has just fallen into my hands, and therein I read the leading article by Mr. M. Buysman on 'Artificial Floating Islands.' I am somewhat surprised to find it there stated that artificial floating islands * * * are only found in some lakes in Mexico, where they are used for agricultural purposes, and in these floating gardens all vegetables grow very luxuriently. It is to the use of the present tense throughout the reference to the famous floating islands of Mexico, that I desire to call attention, without wishing to criticise Mr. Buysman.

The fact is, the floating islands no longer exist in Mexico. They have become fixtures. The waters of the lake in which they once floated like islands of enchantment, have receded for several miles from the city whose walls they once washed A canal runs from the city of Mexico to the present lake Xochimilco, and along the banks of this canal (La Viga it is called), the floating gardens were permanently moved many years since. They still retain, however, the name they possessed in the times of the Aztec Empire, Chinampas.

I have often visited the Chinampas, and perhaps a brief paper on that subject will not come amiss to the readers of THE WEST AMERICAN SCIENTIST.

The manner in which the Chinampas were originally contracted differed little from the plan proposed by Mr. Buysman. The idea was derived from nature. Mosses of thickly interwoven roots of trees and vegetables often become detached from banks where the soil has no very great specific gravity, and float sufficient quantity of such soil for the growth of vegetables. Seizing this idea, and acting upon it, the Aztecs made rafts of wicker work, nearly water tight, and filled them with silt or sediment from the bottom of the lake. In such soil plants grew luxuriantly. It was perhaps with some difficulty that the largest of these gardens were moved from place to place, and in time the wicker raft would naturally give way, precipitating a part of the soil, at the same time sediment would collect under an island, whereupon its peregrinations would cease perforce. A number of Chinampas thus gathered together and permanently anchored, filling in took place about them, and finally narrow canals were opened through them to furnish highways where the soil was not strong enough to have wagon roads. So that the Chinampas exist to-day at various places along the canal from the city of Mexico to Lake Xochimilco, in the form of large gardens with soil rather boggy, but rich and capable of producing, with slight effort, the most beautiful flowers and finest vegetables imaginable. These gardens are separated by narrow canals.

The principle Chinampas are found at Santa Anita and at Ixtacalco. It is a delightful excursion down the Viga to Santa Anita, excursionists rarely go beyond that point. The trip is

made in a rude sort of gondola, propelled by a man at the bow with a long pole. Most of the way down, if the day be clear, views may be had of the two magnificent mountains which dominate the valley of Mexico—Popocatepetl and Iztaccihuatl. At Santa Anita on feast days (and every Sunday and most other days are feast days in Mexico, apparently), there is a great concourse of the lower and middle classes of Mexicans. It is well worth while for the tourist to see this phase of Mexican life and try the tomales of Santa Anita, which are famous. The rich colored flowers of Santa Anita supply the flower market of the Mexican capital, while the Indians of Ixtacalco supply most of the vegetables eaten by the capital anos. *Arthur Howard Noll.*

EAGLE PASS, TEXAS, October, 1888.

FRUITS AND FLOWERS IN SOUTH AFRICA.

'Yanka Girls in Zulu Land' is a book recently published by some young Americans who went there seeking health for one of their number, and contains some statements that might reconcile us to a life in the Transvaal even, a thousand miles from Cape Town. Every street at Potchefstroom is described as a boulevard of oranges and peach trees growing side by side. 'The very hedgerows are figs and quinces, while everywhere may be seen lemons, shaddocks and bananas.' There is the greatest variety and abundance of flowers, but even the most beautiful roses are scentless. Orchids innumerable abound on the streams of Fable Mountain. There are geraniums, heliotropes, lobelias, a great variety of trailing vines and about 350 species of heather, making the mountain sides look like warm-hued carpets.

The climate is delightful and healthful, but the thunder storms are terrific. Southern California is described, however, by others as still more attractive.

BIBLIOGRAPHY.

LORD WALSINGHAM.—"Steps toward a revision of Chamber's Index of (Lepidoptera Fineina), with notes and descriptions of new species" in "Insect Life," 1888, pp. 81–84. The first part of this valuable contribution deals with the genera Cleodora and Dactylota of the former, five species are added to the North America list from California, viz.: C. Striatella Hb., "exactly similar in all respects to the typical European form," C. modesta, sp. nov., C. canicostella, sp. nov., C. tophella, sp. nov., and C. sabulella, sp. nov. The genus Dactycota was previously only known by a single species from Western Europe, and it is therefore quite remarkable to have D. Snellenella, n. sp., coming from Arizona. The whole of this paper illustrates the well-known fact of the resemblance between the fauna of the Pacific slope of North America with that of Europe. The author states

that the name Dactylota is preoccupied in Echinodermata, and should rightly be changed. In such cases, it is better to retain substantially the same name, altering the termination somewhat, so that the two genera need not be confessed. According to this rule, Dactylota, Snellen, might become Dactylotula.

A. R. GROTE describes three new species of Noctuidœ, Agrotis agilis from Vancouver, Xylomiges fletcheri, also from Vancouver, and Orthosia hamifera from California. The last is allied to O. purpurea; but larger. "Canad. Entom.," 1888. 128–131.

I. B. LEIBERG. Mosses in Northern Idaho, Neckera menziesii fruiting there. "Bot. Gazette," 1888. 165.

W. O. EMERSON. Albino birds of nine species, and a melanic robin in California. "Ornith. & Oologist," 1888. 82–93.

L. O. HOWARD.—"The Chalcid genus Rileya." in "Canad. Entom.," Oct., 1888., pp. 191–195, and fig. Rileya, Howard, was based on a species (Rileya splendens), found by Mr. Koebele at Los Angeles, California, and the present paper enters into a discussion as to which has priority, this or Rileya, Ashmead, a genus of Eurytominœ proposed by Mr. Ashmead, about the same time in Bull. 3 of the Kansas Experiment Station, and briefly defined somewhat earlier in a table of genera in "Entomologica Americana." Mr. Howard, discussing in the fairest spirit, claims priority for his own genus, but we are bound to say that we should be rather inclined to admit Mr. Ashmead's priority of description, whatever our wishes on the subject might be. At the same time, we rather doubt the propriety of publishing descriptions of new genera and species in the Bulletins of Experiment Stations, where they are not accessible to entomologists at-large. *T. D. A. C.*

EDITORIAL.

The promised index, thanks to our correspondent, Theo. D. A. Cockerell, is in the printer's hands.

Dr. C. Hart Merriam, Secretary of the American Ornithologist's Union and Chief of the Bureau of Ornithology and Mammalogy, has spent a few weeks this summer along the coast, from Puget Sound southward. His visit in the country, with relatives at Escondido, was cut short by the illness of his sister.

Richard A. Proctor, the eminent astronomer, was one of the victims of fever in New York City.

Dr. C. C. Parry has botanized in the central part of the State this summer, studying certain genera—Ceanothus Arctostaphylos, etc., and has returned to his home in Davenport, Iowa. Prof. Greene has been in the field, we understand, but the results are not yet public. Dr. Edward Palmer has visited several localities, but found conditions unfavorable for botanizing. Walter E. Bryant made a successful trip into Lower California, collecting birds. If others have been doing anything let us hear from them. Altogether science has not been very industriously pursued on our coast the past summer.

NOTES AND NEWS.

Mr. Crossman, of the California State Mining Bureau, asserts that the Klamath river, in the Siskiyou mountain foothills, is the last remnant of a stupendous river like the Mississippi or Amazon, which watered broad fertile valleys previous to the upheavel of the present coast range of mountains. This was at a period contemporaneous with the mammoth, mastodon and other species of that creation. The bones of these animals are found on the banks of this prehistoric river. It is also asserted that a print of a moccasined foot, two feet in length, was lately discovered at Soda Bar in the Siskiyou foothills, and Mr. Crossman has made arrangements to secure a plaster mold of the foot-prints for preservation in the State Museum.

Prof. Morse, of Salem, Mass., has invented a most interesting and practical method of utilizing the heat of the sun. The arrangement consists of a shallow box, the bottom of which is of corrugated iron, and the top of glass, and is placed in such a position that the sun shines directly upon it, the rays of the sun pass through the glass and are absorbed by the iron heating it to a high temperature, and by a system of ventilation, a current of air is passed through the apparatus and into the room to be heated. By these means the air has been heated on sunny days to about ninety degrees of Fahrenheit by passing over the iron.

One of the human foot-prints found in volcanic rock in Nicaragua several years ago, is described by Dr. G. Brinton as being nine and one-half inches long, three inches wide at the heel and four and one-half at the toe. The apparent length of the foot itself is eight inches. Dr. Brinton considers the foot-prints genuine but is uncertain whether they are so ancient as has been supposed.

PUBLISHERS' NOTES.

Mr. George Kennan contributed to the September CENTURY an article on 'Exile by Administrative Process,' in which he gives a great number of instances of the banishment of persons to Siberia, without the observance of any of the legal formalities that in most countries precede or attend a deprivation of rights. Mr. Kennan also discusses, in an open letter in this number of THE CENTURY, the question, 'Is the Siberian Exile System to be at Once Abolished?' stating his reasons for believing that the plan of reform now being discussed in Russia, and which is said by the London 'Spectator' to involve the entire abolition of exile to Siberia as a method of punishment, will not be put into operation. Mr. Kennan says that the present plan is one proposed by the chief of the Russian Prison Department, with whom he had a long and interesting conversation just before his departure from St. Petersburg. It grew out of the many complaints of the respectable inhabitants of Siberia, who demanded that the penal classes of Russia should not be turned loose upon them. The Russian official only hoped to restrict and reform the system, so as to make it more tolerable to the Siberian people, by shutting up in prisons in European Russia a certain proportion of prisoners who are now sent to Siberia. This reform would have affected in the year 1885 fewer than three thousand exiles out of a total of over ten thousand.

Before such a plan goes to the Council of State for discussion it is always submitted to the ministers within whose jurisdiction it falls—in the present case, the Minister of Justice, the Minister of Finance, and the Minister of the Interior. Two of these officers have already disapproved of the plan, the Minister of Justice declaring that 'exile to Siberia for political and religious offenses must be preserved,' and it is Mr. Kennan's belief that the scheme will not even reach the Council of State.

This is by no means the first measure of reform which has been submitted to the Tsar's ministers, but every effort has so far been fruitless, and the plans have been found 'impracticable.'

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(*Editorial from the Cosmopolitan, December, 1882.*)

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While the Verraux Freres were gaining a world-wide reputation, an American lad, William H. Winkley by name, was pursuing his studies at the famous technical schools of the French capital, and, when his means were all but exhausted, he left his lodgings in the Latin quarter and apprenticed himself under these famous masters. After serving a long and laborious apprenticeship in the study of animal forms, anatomy, and drawing, he considered himself sufficiently equipped for the practical work of his vocation. Returning to America, and selecting a small interior town where rents and living expenses were light, he set up anestablishment of his own, as large as his limited means would allow.

To-day, he supplies the largest museums of the world with stuffed specimens from the elephant down to the smallest rodent, besides large quantities of minerals, rocks, fossils, casts of fossils, skins, and skeletons (unmounted) of animals of all classes, and often the wild animals themselves, alcoholic specimens, insects, crustaceans, shells, echmoderms, corals, sponges, and botanical specimens, from every quarter of the globe and in a great variety of form and price. Also anatomical preparations, chemical, philosophical and optical instruments, with Naturalists' supplies of every description, and, the Verraux Freres being now dead, he has established, as they did, stations upon every continent for the collection of natural history specimens. The attaches of all the stations are over 100 in number, many of whom are specialists.

At his American headquarters at Clearfield, Iowa, there are not far from 100,000 specimens of all classes. Besides mounting the skins sent in by his own collectors, this eminently successful taxidermist takes custom work in his department from those desiring the same, and many hundreds of persons and museums throughout the civilized world are constantly sending him mammal and bird skins and skeletons for restoration. Especially is this true of those scientific persons and wealthy individuals, who, while abroad, have shown prowess in the hunt.

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